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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,118	05/31/2006	Masato Ishio	515.040US01	2312
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FOGG & POWERS LLC 5810 W 78TH STREET SUITE 100 MINNEAPOLIS, MN 55439			EXAMINER PARK, HYUN D	
			ART UNIT 4154	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/596,118	Applicant(s) ISHIO ET AL.	
	Examiner HYUN PARK	Art Unit 4154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/31/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 7** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites the limitation “said pattern signal”. There is insufficient basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 12-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 12-17 are not directed to a method within the meaning of 101 since these claims contain methods which are not tied to a particular machine or apparatus, In re Bilski, 543 F .3d 943, 88 USPQ 2d 1385 (Fed. Cir. 2008), nor are there any physical transformation of matter due to the said method employed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 7-8, 10-11, 17-18, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoenninger, US Pat No. 5,490,065 (hereinafter Hoenninger).

Regarding **Claims 1 & 11**: Hoenninger discloses a test apparatus (7)(Fig. 1) and a method for testing the operation of a control unit (10)(Fig. 1), comprising:

simulating (11)(Fig. 1) means for simulating a target to be controlled by said control unit (Col. 4, lines 1-2); and

testing means for testing the operation of said control unit based on a relationship between a pattern signal input (90)(Fig. 5) to said control unit and an output signal (91)(Fig. 5) output from said simulating means in response to said pattern signal (Fig. 5)(Col. 7, lines 32-37), wherein

said testing means tests the operation of said control unit at predetermined timing (Col. 4, lines 19-27) and, if a decision is not obtained that said control unit is operating properly, retries said decision a predetermined number of times. (One having ordinary skill in the art would recognize that repeating the retrying operation until a predetermined time limit expires results in repeating the retrying operation a predetermined number of times.)(see step 34, Fig. 2, Col. 4, lines 19-27)

Regarding **Claims 7 & 17**: Hoenninger discloses a test program creating apparatus (8) (Fig. 1) and a method for creating a test program (Col. 1, lines 56-59; Col. 2, lines 1-8; Claim 1, lines 58-60) for testing a diagnostic function by causing a control unit (10)(Fig. 1) to output data, comprising: (Note: Testing a diagnostic function is equivalently taught in Hoenninger (Cols. 3-7, Operation section)(Figs. 2-5). (Regarding creation of test programs, Hoenninger teaches that simulated measurements values (within a test program) applied to at least one of inputs and outputs of the control unit are adjustable (Claim 1, lines 58-60). Adjustability implies inputting different test values and the creation of differing test programs for testing the control units.)

means and a step for displaying said pattern signal to be processed in said control unit onto a screen (7)(Fig. 1)(Fig. 4 & 5); and (Note: Computer has a monitor which displays the input and output pattern signals)

means and a step for enabling a setting to be made (Fig. 2) for said testing of said diagnostic function with said pattern signal displayed on said screen (Col. 4, lines 1-14, lines 28-35).

Regarding **Claims 8 & 18**: Hoenninger is applied as above. Hoenninger discloses a test program creating apparatus and method wherein said setting for said testing of said diagnostic function involves setting data output request information to be transmitted (Initialization step: Col. 3, lines 29-31; selecting a test program step: 37-41; Triggering step, Col. 3, lines 44-57, Testing steps, Col. 3, line 65-67, Col. 4, lines 1-6, lines 16-22, lines 35) to said control unit and also setting a condition based on which to determine whether said diagnostic function is working properly or not (control unit responding to the Initialization step: Col. 3, lines 32-35, lines 41-43; control unit responding to the Triggering step, Col. 3, lines 57-60, control unit responding to the Testing step, Col. 4, lines 22-28) when said data output request information is transmitted to said control unit.

Regarding **Claims 10 & 20**: Hoenninger discloses a test apparatus (7)(Fig. 1) and a method for a control unit (10), comprising:

testing means for testing the operation of said control unit (Operation section; Col. 3-7; Figs. 2-5) based on a relationship between a pattern signal input (Initialization input

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signals, Col. 3, lines 52- 56)(testing input signals, Col. 34, lines 1-6)(testing square wave signals, Col. 3, lines 28-35) to said control unit and an output signal output in response (Figs. 4 & 5) to said pattern signal from a target being controlled by said control unit; and

means for causing said testing means during execution of said pattern signal to switch to the execution of another pattern signal when a pattern signal transition condition for making a transition to the execution of said other signal holds. (Note: Hoenninger discloses conditions for transitioning to different pattern signals, namely first from initializing signals (Col. 3, lines 52-55) to a set of input signals generated by the signal generators (Col. 4, lines 1-6) provided that a successful communication between the control unit and testing computer is made in the initialization step. Afterwards, transition from signal generated input signals to square wave signals (Col. 4, lines 28-35) is made provided the test program recognizes a falling edge signal on the ignition signal output line 17 (Col. 4, lines 21-28).

7. Claims 2-6, 12-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kamiyama, US-PGPUB 2004/000095350 (hereinafter Kamiyama)

Regarding **Claims 2 & 12**: Kamiyama discloses a pattern signal creating/editing apparatus (10)(Fig. 1; Paragraph [0075], lines 5-7)(Fig. 2; Paragraph [0082], lines 5-6) and a method for creating a pattern signal, comprising:

first function processing means (21b)(Fig. 2 & Fig. 10) (Paragraph [0082], lines 5-7) for creating said pattern signal (waveform in channel 0, as an example)(Fig. 10) based on a control interval at which to control a unit (15)(Fig. 1) that uses said pattern signal created by said pattern signal creating apparatus; and

second function processing means (21b)(Fig. 2 & Fig. 10) (Paragraph [0082], lines 5-7) for creating said pattern signal (waveform in channel 7, as an example with different interval) (Fig. 10) based on an interval different from said control interval.

Regarding **Claims 3 & 13**: Kamiyama is applied as above, wherein said second function processing means creates said pattern signal based on an interval of time that extends over a plurality of said control intervals. (Fig. 10)(Waveform in channel 7, where the plurality of intervals extends from 0 to 5 sec)

Regarding **Claims 4 & 14**: Kamiyama is applied as above, wherein said second function processing means creates said pattern signal based on intervals equal to each of said control intervals. (Fig. 10)(Waveform in channel 7, where each interval are 1 sec long)

Regarding **Claims 5 & 15**: Kamiyama disclose a pattern signal creating apparatus and a method for creating a pattern signal (10)(Fig. 1; Paragraph [0075],

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lines 5-7)(Fig. 2; Paragraph [0082], lines 5-6), comprising:

means for creating a correlation pattern signal for which correlation information relative to a reference pattern signal is specified (Fig. 15; Paragraph [0111]) (Note: since the digital waveform is obtained from the analog waveform, analog waveform can be designated as the reference pattern signal)(Paragraph [0111], lines 1-3)

display means for displaying said reference pattern signal and said created correlation pattern signal on the same screen. (Fig. 15; Paragraph [0110])

Regarding **Claims 6 & 16**: Kamiyama discloses a pattern signal creating apparatus and a method for creating a pattern signal (10)(Fig. 1; Paragraph [0075], lines 5-7)(Fig. 2; Paragraph [0082], lines 5-6),, comprising:

display means for displaying, when there exists a correlation pattern signal for which correlation information relative to a reference pattern signal is specified, said reference signal and said correlation pattern signal on the same screen (Fig. 11; Paragraph [0110], Paragraph [0111]; and

pattern signal interlinking changing means for changing said correlation pattern signal in interlinking fashion as said reference pattern signal changes (Paragraph [0112]), wherein

when said reference pattern signal is edited, said display means redisplay said correlation pattern signal changed by said pattern signal interlinking changing means along with said edited reference pattern signal (Paragraph [0112]).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 9 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoenninger in views of Chapman et al, US Pat No. 5,442,738 (hereinafter Chapman) and Kamiyama.

Regarding **Claims 9 & 19**: Hoenninger discloses a test program creating apparatus and a method for creating a test program (8)(Fig. 1). Hoenninger also discloses conditions for transitioning to different pattern signals, namely first from initializing signals (Col. 3, lines 52-55) to a set of input signals generated by the signal generators (Col. 4, lines 1-6) provided that a successful communication between the control unit and testing computer is made in the initialization step. Afterwards, transition from signal generated input signals to square wave signals (Col. 4, lines 28-35) is made provided the test program recognizes a falling edge signal on the ignition signal output line 17 (Col. 4, lines 21-28). Hoenninger however does not explicitly disclose child and parent projects containing the pattern signals,

Chapman discloses a computer display with various nested windows configurations (Figs. 3-6), which allows the structural relationships between the objects (Abstract, lines 2-5) to be represented in a way that is visually easy to comprehend (Col. 4, lines 28-30). The display is also user friendly and easy to edit and read (Col. 4, lines 40-41). In recognizing the parent-child relationship, consider Fig. 4 for instance, where it shows an entity A embedded with entities C and B. Entity A would then correspond to "parent" project and entities C and B would correspond to "child" projects. Chapman teaches that more complex relationships or further nested entities could also be included within either or both of entities 27 and 28 (Col. 3, lines 36-41). (The objects and relationships

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may then be edited by use of a pointing device based on the computer display to identify the object or relationship which is to be edited. (Col. 2, lines 63-66)

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the nested windows of Chapman with Hoenninger electronic control unit testing system (which displays input and out put pattern signals) to provide easy visualization and editing of various projects (parent/child) on the same display.

The Hoenninger, as modified by Chapman however, does not disclose simultaneously displaying edit screen for child/parent projects, and first and second editing means for editing child projects.

Kamiyama discloses a signal pattern editing program where various waveforms are generated and edited (displayed on the same screen) (Abstract)(Figs. 10, 11, 15, in particular) to be used in the testing of the electronic control units. (Fig. 1), so that the characteristics of the waveforms can be easy to know, with improved operability in the waveform editing, desired waveforms can be easily generated, and multiple waveforms generated from separate data are displayed on the same screen, so that efficient waveform editing conducted with consideration given to relations between the waveforms can be implemented, and a waveform editing system. (Paragraph [0010], lines 2-14)

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Kamiyama's signal pattern waveform editor with the Hoenninger as modified by Chapman to provide an efficient generation and editing of multiple projects visually (with various child projects containing pattern signals nested within the parent project) on the same screen. (Transitioning from one pattern signal to another as well as from one child project to another can be accomplished in the nested windows configuration simply by using the pointing device based on a computer display to identify. First and second child project editing would then correspond to selectively editing a parent project containing two child projects, respectively.)

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Borkowicz et al (US Pat No. 5,438,513) discloses an automotive electronics test system.

Raviglione et al (US Pat No. 5,307,290) discloses a system for the automatic testing of electronic control systems.

Sano (US Pat No. 5,553,213) discloses a method and apparatus for displaying a plurality of signal waveforms appearing at different time intervals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HYUN PARK whose telephone number is (571)270-7922. The examiner can normally be reached 8-4 PM, M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jared, Fureman can be reached on (571) 272-2391. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. P./

/Jared J. Fureman/
Supervisory Patent Examiner, Art
Unit 4154

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